

any desired speed. Twenty four watch-glasses, each about two centimetres in diameter were fastened by sealing-wax around the edge of the disc, and the apparatus was so arranged that as the disc rotated the centre of each watch-glass passed under the stop-cock connected with the right jugular vein. The time was recorded in the following way: The entire disc, with the exception of the border on which the glasses were fastened, was covered with a layer of lampblack and an electro-magnetic lever so arranged that as the disc revolved it would describe a concentric circle on the smoked surface. A syringe containing ten cubic centimetres was then filled with the defibrinated pigeon's blood and bound in the cannula previously filled with the same blood in the left external jugular. After all connections were made the kymographion was started and allowed to revolve for twenty or thirty seconds before making the injection, so as to get a normal pulse and pressure curve. The clip was then removed from the right jugular vein, and as soon as the blood commenced to flow from the glass stop-cock the clip was removed from the left jugular, the injection made and the disc started simultaneously, the instant of starting the disc being also automatically recorded below the pulse line on the kymographion. When all the cups were filled with the blood the disc was stopped and the blood instantly examined microscopically. He arrives at the conclusion that the average time required to complete the circulation in a dog of ten kilogrammes weight was between twenty-five to thirty seconds.—Transactions of the College of Physicians of Philadelphia. Third Series, vol. vii. ISAAC OTT, M.D.

c.—GENERAL PATHOLOGY OF THE NERVOUS SYSTEM.

DISTRIBUTION OF ANÆSTHESIA IN CASES OF DISEASE OF THE BRANCHES AND OF THE ROOTS OF THE BRACHIAL PLEXUS.—In a most interesting article under the above title, Dr. James Ross (*Brain*, April, 1884) draws the following conclusions from cases reported by Litrevaut, Bernhardt, Wier Mitchell, and others under his own observation, in which one or more of the cutaneous nerves of the brachial plexus has been completely divided, and in which the permanency of paralysis in the region of distribution of the corresponding motor fibres, or some other circumstance had shown that no reunion of the divided ends could have taken place:

1. That one of the principal nerves of the brachial plexus may be divided without giving rise to complete anæsthesia in any part of the area of distribution of the sensory branches of the nerve; and that when complete anæsthesia does occur the portion of the skin affected is very limited, and even the area of skin affected with partial anæsthesia is usually much less than the district corresponding to the anatomical distribution of the nerve.
2. That, as a general rule, the anæsthesia caused by division

of one or more cutaneous nerves tends to become progressively less in degree and extent with lapse of time. From this it follows that in division of one or more cutaneous nerves the area of normal sensibility tends to encroach upon the anæsthetic district so that when one nerve (say the radial) is divided, its area of distribution, as judged by the extent of the anæsthesia, appears to be very small.

3. That the extent, degree, and even localization of the anæsthesia caused by division of any nerve, differ greatly in different cases without our being able to discover anything in the nature of the injury to the nerve or in the external circumstances of the patient which would account for these differences.

4. That the descriptions given by Krause and by Henle of the anatomical distribution of the digital branches, and especially those derived from the median nerve, correspond more accurately with the results of pathological observation than those usually given in English anatomical works.

DESTRUCTION OF OCCIPITAL LOBE ACCOMPANIED BY BLINDNESS.—Case reported by D. J. Hamilton in the *Brain*, April, 1884. Patient, female, aged thirty-six, mill-worker, was under observation at the Edinburgh Royal Infirmary for six weeks previous to her death. Gave history of six months before having had a great sickness and vomiting; vomited matter was undigested food. Sickness lasted a month, then had some headaches. After this said she was subject to fits which did not occur every day. Sometimes had more than one a day. Did not cry out nor bite her tongue, nor have convulsions. During them was unconscious of her surroundings and lost her power of vision. They seemed like faints. All this time she took medicine (iron) prescribed by a medical man. The fits gradually passed away and she had not had one for six weeks. After them she complained of her eyesight which gradually became worse and worse until she was almost blind. When first taken ill pain was in every part of her head, but when admitted to infirmary it was confined to the front of the head between her temples. Had always been troubled with palpitation.

The patient who was not well developed had small but firm muscles. Grasp of hand feeble. Lay in bed motionless with legs usually drawn up. A staring look, pupils widely dilated. Squint outward of right eye. An extremely anxious expression of her face.

Patient could give no account of the origin of her blindness except that it came on rapidly about six months before. There was dimness of vision at first. No diplopia nor color blindness. She was in a very torpid state, and did not answer clearly. Could distinguish light from darkness, but could not count figures. Marked optic neuritis in both eyes, more advanced in the left. Hearing fairly good. No complaints of noises in the head. Taste not acute. Smell almost absent. No difference could be de-

tected between the two sides. Sensation, sensibility, and sense of touch normal. Tickling caused no reflex movements. Organic reflexes normal. Tendon reflexes very slight. Abdominal skin reflexes absent. Mental condition good except for the extreme torpidity, which increased until she died. No elevation of temperature until a few days before her death, when the highest attained was 101.2 F. Upon post-mortem examination nothing of especial note in organs other than lungs and brain. In right lung was small cicatrix with a slight cheesy deposit. Left lung had in upper lobe two cavities: one at apex, size of small orange; the other smaller, near the base, had character of gangrene. Upper cavity had strong gangrenous odor. Edges were infiltrated with solid tissue, apparently cancerous, which also extended into bronchial glands. Microscopically the tumor was composed of large flat cells evidently cancerous in their nature.

The brain weighed three pounds. Skull particularly thin. Surface of hemispheres peculiarly dry, and convolutions flattened. Occupying the occipital lobe in the left side, and entirely confined to it, was a tumor, apparently growing from the dura mater, which was closely and inseparably adherent to it. Optic nerves and tracts did not appear to have undergone marked atrophy. Dura mater easily separated from skull. Both discs were atrophied and the retinae for some distance around them had a yellowish tint.

Tumor size of billiard ball; firm; apparently continuous with brain substance, from which it could not be easily dislodged. Microscope showed large flat cells with the prominent nuclei of epithelium which were arranged sometimes in concentric laminated form about blood-vessels. The latter were numerous, and in many cases distended and tortuous. This tumor was surrounded by a zone of redness which was composed of tortuous and distended capillaries. The tumor had not pushed aside the cortical substance, but had destroyed it completely. The occipital lobe had been replaced by the tumor, which was the only one found in the central nervous system, and was probably secondary to the gangrenous neoplasm of the left lung.

The destruction of the occipital lobe was unaccompanied by distinct evidences of secondary degeneration in the fibres springing from it.

There was, however, enormous enlargement of the side (left) of cerebrum occupied by the tumor, while the other retained its natural size. Enlargement was in frontal and parietal, as well as occipital regions. Corpus collosum thickened on left side and twisted because of the bulk of the hemisphere. Lateral ventricles were also twisted, and left was obliterated in parts because of the protrusion of the tumor.

There was an unnatural toughness of the affected hemisphere. Thalami more congested than normally, as was also right cerebrum, which was otherwise unaltered. The enlargement of cerebrum was caused by increase of connective tissue. Gray matter was unaltered as both sides, or perhaps was slightly diminished. Dense plexuses of processes of Deiter's cells formed enormous

leashes running in all directions, while the nerve fibres themselves remained intact. The left optic nerve showed a tract of degeneration. Right was healthy. Sub-dural and sub-arachnoid spaces of the nerves were unaltered. The corpora quadrigemini, cerebellum, medulla oblongata, and cord showed no lesion. Central canal of cord was nearly obliterated by desquamated epithelium.

THE RELATIONS OF HYSTERIA WITH THE SCROFULOUS AND TUBERCULOUS DIATHESIS.—Professor Grasset makes the following observation :

There is a neuropathic and tubercular heredity. The diathesis is first located in the nervous system, and is then manifested by the hysterical neurosis ; next it invades the respiratory organs, and determines a pulmonary tuberculosis. I look upon hysteria and phthisis as mere successive manifestations of the hereditary diathesis, the symptoms of the one disappearing only upon the invasion of the other. Autopsy has shown that there is true hysteria as well as true phthisis, and not tubercular disease of the nerve-centres giving rise to hysteriform phenomena.

ACUTE ASCENDING PARALYSIS.—Dr. Lamberti Antonini reports in the *Rivista Clinica* a case which he has diagnosticated as "acute ascending paralysis," or the "paralysis of Landry," so called because first described by Landry in 1859.

Dr. Antonini's patient was a woman about fifty-five years, mother of seven children. Previous to the menopause which occurred six years ago, she had had uterine troubles consisting of metrorrhagia, uterine catarrh, and neuralgia. She also had had slight hysterical manifestations, such as the globus and cephalalgia.

One evening in March, when in what she called complete health, she attended the theatre. The next morning, in attempting to arise, she was surprised by a feeling of weakness in both of her lower extremities, which increased notably the second day and was accompanied by fever. This weakness rapidly changed into a paresis, which in turn became complete paralysis. The same succession of symptoms took place in the upper extremities, followed by such a paresis of the muscles of respiration as to endanger the life of the patient. The pulmonary circulation was interfered with, and, in consequence, hypostatic congestion took place, followed by hepatization at the base of both lungs. At the same time the cerebral functions were normal. Sensibility to touch, pain, and heat were normal. No trace of atrophy ; reflex movements intact. Electrical excitability of nerve and muscle normal. Fever of 38° to 39° Centigrade.

The patient recovered first from the paralysis, and afterward from the pulmonary difficulties. She showed no signs of muscular atrophy when seen a long time after the occurrence of the disease.

The writer regards the case as a perfect picture of the little known and infrequently described disease of acute ascending paralysis, which differs essentially from the acute poliomyelitis of the adult, in which there is vesical paresis. Motor reflexes diminished or abolished, and later muscular atrophy with evidences of electrical degeneration, together with manifest cerebral disturbance. It differs also from the subacute poliomyelitis of Duchenne, which is defined as a paralysis accompanied by complete relaxation of the muscles and loss of their reflex excitability, followed by rapid progressive atrophy, with the reaction of degeneration. In the same way it differs from the incomplete form, the chronic anterior poliomyelitis of Erb.

CHOLESTRUM IN THE SPINAL CORD.—Chiari (*Prager med. Wochenschrift*, 1883, No. 39) found cholestrum in the dorsal spinal cord of a man with ascending and descending degeneration. During life the patient had increasing atrophy, next a spastic condition of the lower extremities, finally anæsthesia of the lower half of the body. In the middle of the dorsal cord was found upon microscopic examination sharply defined atoms of cholestrum, spindle-shaped, having a length of 4 cm., and greatest breadth of 1.5 cm. On account of the perfectly central position of the tumor, within the substance of the cord, here evidently was the starting-point, and not in the meninges. The writer supposes from the microscopic investigation that the cholestrum came from the epithelium of the central canal.

ON SOME REFLEXES OF CHILDHOOD.—By A. Eulenburg (*Neurolog. Centralbl.*, 1882). The author has made an investigation on the tendon, osseous, skin, and pupillary reflexes in childhood, and arranged the results in form of a table. He finds in one hundred and twenty-four infants examined, ranging in age from one month to five years, one hundred and twelve times the phenomena of the knee bilateral; twenty-three times the phenomena of the foot; ten times the tibial reflex of both sides; six times the tibial reflex of one side alone; one hundred and twenty-four times abdominal, nasal, corneal, and pupillary reflexes; one hundred and nineteen times the auricular-reflex.

RUMINATION.—In the *Archives de Neurologie* for May, 1884, is an appendix to the history of Merycismus or Rumination, which has been given in previous numbers of that publication. This peculiar disease is an exceedingly rare one. M. Blanchard estimates the number known to science as thirty-six only. M. Bonchaud cites fourteen, making in all sixteen cases. Thirty-seven of these the writers of the paper, MM. Bonneville and Séglas have tabulated. Of these, thirty-two were males, ten were idiots. The causes of the disease are given as heredity, imitation, voracity, indigestion, and dyspepsia.

A *merycole* usually bolts his food in large quantities, which, after a varying time he regurgitates in small masses, remasticates them, and then swallows them again. Sometimes he can regurgitate his food without any apparent effort, or then again its return to the buccal cavity is caused only by a contraction of the abdominal muscles. M. O. Koerner distinguishes two forms; simple or idiopathic; the other symptomatic and united to dyspeptic troubles. He gives the following characteristics of each:

<i>Merycisme simple</i> occurs after a very full stomach.	<i>Merycisme dyspeptique</i> occurs after ingestion of small quantities of food.
Commences half an hour after ingestion of food.	Commences almost immediately after ingestion.
Preservation of the taste of regurgitated food.	Taste acid and disagreeable.
Reduglition.	Rejection of the returned aliment.
Preservation of flesh.	Wasting.

The writers of the article under consideration criticize the above classification, and say that these distinctions between the two classes are not sufficiently marked to justify it. However that may be, we have cited them here as a list of the symptoms found in this disease. The regurgitation of food takes place, as it has been said, immediately after or some little time after its ingestion; it may continue to be regurgitated for a number of hours. Certain morsels which have been once rolled once sweetly under the tongue can at the will of the individual be brought back to awaken again in the organs of taste the original pleasurable sensations.

Usually the disease, which in itself is not injurious to the individual, continues through life, though sometimes a spontaneous cure takes place.

VERTIGINOUS TROUBLES IN TABES.—By M. Pierre Marie and Dr. G. L. Walton (*Revue de Médecine*).—In a very interesting paper with this title, the writers call attention to the neglect of investigation of auditory difficulties of tabes, which is in striking contrast to the investigations which are almost always made in regard to the eyes.

They instituted twenty-eight observations on tabetic patients in the service of M. Charcot, at Salpêtrière. In seventeen there were found both manifestations of vertigo and noises in the ears. In seven others there was no vertigo. In only two cases there was slight whistling sound, not sufficiently marked to make them worthy of consideration.

The authors came to the following conclusions:

1. Vertigo (*les accidents vertigineux*) is much more frequent in tabes than is generally believed. It is more or less intense and entirely analogous to Ménière's disease.
2. The occurrence of vertigo for the most part coincides with

the commencement of tabes. (In one case it occurred twenty-five, in other cases five, years after.)

3. Its occurrence does not depend upon a degeneration of the auditory nerve, analogous to that of the optic nerve; the physiological function of the nerve is not altered.

4. Its occurrence can be logically attributed to a lesion of certain fibres of the auditory nerve which belong to the semicircular canals, and constitute the nerve for the *sense of space*.

W. R. BIRDSALL.

d.—MENTAL PATHOLOGY.

THE NATURE OF INSANITY.—Dr. J. Hughlings Jackson (*Popular Science Monthly*, June, 1884) says: "Disease is said to cause the symptoms of insanity. I submit that disease only produces negative mental symptoms answering to dissolution, and that all elaborate positive mental symptoms (illusions, hallucinations, delusions, and extravagant conduct) are the outcome of activity of nervous elements untouched by any pathological process—that they arise during activity on the lower level of evolution remaining. The principle may be illustrated in another way without undue recapitulation. Starting this time with health, the assertion is that each person's normal thought and conduct are, or signify, survivals of the fittest states of what we may call the topmost layer of his highest centres, the normal highest level of evolution. Now, suppose that from disease the normal highest level of evolution (the topmost layer) is rendered functionless. This is the dissolution, to which answer the negative symptoms of the patient's insanity. I contend that his positive mental symptoms are still the survival of his fittest states—are survivals on the lower, but then highest, level of evolution. The most absurd mentation and most extravagant actions in insane people are the survival of their fittest states. I say 'fittest' not 'best'; in this connection the evolutionist has nothing to do with good or bad. We need not wonder that an insane man believes in what we call his illusions; they are his perceptions. His illusions, etc., are not caused by disease, but are the outcome of activity of what is left of him (of what disease has spared), of all there then is of him; his illusions, etc., are his mind." There are both truth and error in this statement of Dr. Jackson. That the nervous elements are entirely unaffected pathologically in the production of hallucinations, etc., cannot, strictly speaking, be admitted; that they are not *destructively* involved is true. As was pointed out some years ago (*JOURNAL OF NERVOUS AND MENTAL DISEASE*, January, 1878), in combating the statement of the Utica school of alienists that hallucinations were due to *destruction* of nerve cells and fibres, hallucinations imply an *anatomically intact* receptive mechanism, whose function is temporarily *perverted*. Stripped of evolutionary verbiage, the views of Dr. Hughlings Jackson, expressed in the extract cited, simply amount to the same as the